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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,573

09/27/2006

Toshiyuki Matsumura

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WENDEROTH, LIND & PONACK L.L.P.  
2033 K. STREET, NW  
SUITE 800  
WASHINGTON, DC 20006

EXAMINER

MONIKANG, GEORGE C

ART UNIT

PAPER NUMBER

2614

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/594,573	<b>Applicant(s)</b> MATSUMURA ET AL.	
	<b>Examiner</b> GEORGE C. MONIKANG	<b>Art Unit</b> 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 1-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 10/594,573.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION****Response to Arguments**

1. Applicant's arguments, filed 11/7/2008, with respect to the rejection(s) of claim(s) 18-34 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Tagami, US Patent 6,269,168 B1.

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Level: 1 + Numbering Style: 1, 2, 3,  
... + Start at: 1 + Alignment: Left +  
Aligned at: 0 pt + Tab after: 36 pt  
+ Indent at: 0 pt**Claim Rejections - 35 USC § 102**

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 18, 29 & 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Tagami, US Patent 6,269,168 B1.

Re Claim 18, Tagami discloses a speaker device comprising: a housing having an opening portion (fig. 1); a vibration system member for vibrating to generate sound (col. 1, lines 20-30); a support system member connected to the housing and for supporting the vibration system member in a manner which allows the vibration system member to vibrate (col. 1, lines 31-36); a first magnetic circuit disposed inside the housing and having a first magnet provided on a surface thereof facing the opening portion (fig. 1; col. 1, lines 37-61), and a first yoke provided lateral to the first magnet (fig. 1: 115; col. 1, lines 37-61); and a second magnetic circuit having a second magnet

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disposed facing the first magnet via a gap (col. 2, lines 6-18), and a second yoke provided lateral to the second magnet (fig. 1: 125; col. 2, lines 6-18), wherein a magnetic gap is formed in at least one of an interval between a side surface of the first magnet and the first yoke in the first magnetic circuit and an interval between a side surface of the second magnet and the second yoke in the second magnetic circuit (fig. 1; col. 1, lines 37-61), the vibration system member includes: a first voice coil (col. 2, lines 55-63); a first voice coil bobbin provided to dispose the first voice coil in the magnetic gap (fig. 1: 111; col. 1, lines 37-61); and a magnetic member made of a magnetic material other than a magnet (fig. 1: 106, 116; col. 1, lines 37-61), and connected directly or indirectly to the first voice coil bobbin so that the magnetic member is disposed in the gap between the first magnet and the second magnet (fig. 1: 106, 116; col. 1, lines 37-61).

Re Claim 19, Tagami discloses the speaker device according to claim 18, wherein the vibration system member further includes a diaphragm at least a portion of which is composed of the magnetic member (fig. 1: 106; col. 1, lines 37-61), the first voice coil bobbin is fixed to the diaphragm (fig. 1: 111; col. 1, lines 37-61), and the support system member supports the diaphragm in the gap in a manner which allows the diaphragm to vibrate (col. 1, lines 37-61).

Re Claim 20, Tagami discloses the speaker device according to claim 18, wherein the second magnetic circuit further includes: a magnetic plate fixed to a surface facing the opening portion of the second magnet (fig. 1: 116; col. 1, lines 37-61), the second yoke is disposed lateral to the second magnet and the magnetic plate (col. 2,

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lines 6-15), and forms a magnetic gap between the second magnet and a side surface of the magnetic plate (col. 1, lines 37-61), the vibration system member further includes a diaphragm disposed (col. 1, lines 37-61), facing a surface facing the opening portion of the housing of the second magnetic circuit (col. 1, lines 37-61; col. 2, lines 6-15), the first voice coil bobbin connects the diaphragm and the magnetic member via the magnetic gap formed in the second magnetic circuit (col. 1, lines 37-61; col. 2, lines 6-15), and the first voice coil is disposed in the second magnetic gap formed in the second magnetic circuit (fig. 1: 106 & 108; col. 1, lines 37-61; col. 2, lines 6-15).

Re Claim 21, Tagami discloses the speaker device according to claim 20, wherein the first magnetic circuit further includes a magnetic plate fixed to a surface facing inside of the housing of the first magnet (fig. 1: 116; col. 1, lines 37-61), the first yoke is disposed lateral to the first magnet and the magnetic plate (fig. 1: 115; col. 1, lines 37-61), and forms a magnetic gap between the first magnet and a side surface of the magnet plate (col. 1, lines 37-61), and the vibration system member further includes: a second voice coil (col. 2, lines 6-15); and a second voice coil bobbin fixed to the magnetic member and for disposing the second voice coil in the magnetic gap formed in the first magnetic circuit (fig. 1: 106 & 108; col. 1, lines 37-61; col. 2, lines 6-15).

Re Claim 22, Tagami discloses the speaker device according to claim 18, wherein the second magnetic circuit further includes: a magnetic plate fixed to a surface facing the opening portion of the second magnet (col. 2, lines 6-15), the second yoke is disposed lateral to the second magnet and the magnetic plate (fig. 1: 125; col. 2, lines 6-15), and forms a magnetic gap between the second magnet and a side surface of the

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magnetic plate (col. 2, lines 6-15), the vibration system member further includes: a diaphragm disposed, facing a surface facing the opening portion of the housing of the second magnetic circuit (fig. 1; col. 2, lines 6-15); and a connection member for connecting the diaphragm and the magnetic member via the magnetic gap formed in the second magnetic circuit (fig. 1; col. 2, lines 6-15), and the first voice coil bobbin disposes the first voice coil in the second magnetic gap formed in the first magnetic circuit (fig. 1; col. 2, lines 6-15).

Re Claim 23, Tagami discloses the speaker device according to claim 18, wherein the first and second magnetic circuits have the same structure (fig. 1: 106 & 108), and the second magnetic circuit and the first magnetic circuit are arranged symmetrically about the magnetic member (fig. 1: 106 & 108).

Re Claim 24, Tagami discloses the speaker device according to claim 23, wherein the vibration system member further includes: a second voice coil (col. 2, lines 6-15); and a second voice coil bobbin connected directly or indirectly to the magnetic member and for disposing the second voice coil in the second magnetic gap formed in the first magnetic circuit (fig. 1; col. 2, lines 6-15), the first voice coil bobbin disposes the first voice coil in the second magnetic gap formed in the second magnetic circuit (fig. 1; col. 1, lines 37-61; col. 2, lines 6-15).

Re Claim 25, Tagami discloses the speaker device according to claim 18, wherein the first magnetic circuit further includes: a magnetic plate fixed to a surface facing inside of the housing of the first magnet (fig. 1; col. 1, lines 37-61); and a third magnet fixed to a surface facing inside of the housing of the magnetic plate (fig. 1; col.

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1, lines 37-61), and the first yoke is provided to form a magnetic gap between the first yoke and a side surface of the magnetic plate (fig. 1; col. 1, lines 37-61), and the first magnet and the third magnet are magnetized in directions opposite to each other (fig. 1; col. 1, lines 37-61), the directions being vibration directions of the vibration system member (fig. 1; col. 1, lines 37-61).

Claim 26 has been analyzed and rejected according to claim 25.

Re Claim 27, Tagami discloses the speaker device according to claim 18, wherein the first magnetic circuit further includes: a magnetic plate fixed to a surface facing inside of the housing of the first magnet (fig. 1; col. 1, lines 37-61), the first yoke is provided to form a magnetic gap between the first yoke and a side surface of the magnetic plate (fig. 1; col. 1, lines 37-61), and the first magnet is magnetized in a vibration direction of the vibration system member (fig. 1; col. 1, lines 37-61).

Claim 28 has been analyzed and rejected according to claim 27.

Re Claim 29, Tagami discloses the speaker device according to claim 18, where the speaker device comprises a plurality of magnetic circuit units each composed of said first and second magnetic circuits (fig. 1: 106 & 108), said vibration system member includes: a same number of the first voice coils as a number of magnetic circuit units (fig. 1; col. 1, lines 37-61; col. 2, lines 6-15); a same number of the first voice coil bobbins as the number of magnetic circuit units, each first voice coil being disposed in a corresponding second magnetic gap of the corresponding magnetic circuit unit (fig. 1; col. 1, lines 37-61; col. 2, lines 6-15); and a diaphragm fixed to each first voice coil

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bobbin and at least a portion of which is composed of a the magnetic member (fig. 1; col. 1, lines 37-61; col. 2, lines 6-15).

Re Claim 32, Tagami discloses the speaker device according to claim 18, further comprising: a frame fixed to the support system member, wherein a speaker unit composed of the vibration system member (fig. 1), the support system member (fig. 1), the first and second magnetic circuits (fig. 1), and the frame (fig. 1), is attached to the opening portion by the frame being fixed to the opening portion (fig. 1).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tagami, US Patent 6,269,168 B1 as applied to claim 18 above, in view of Dijkstra et al, US Patent 4,607,382. (The Dijkstra reference is cited in IDS filed in 9/27/2006)



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6. . Re Claim 30, Tagami discloses the speaker device according to claim 18, but fails to disclose a position detecting section for detecting a position of the vibration system member (*Dijkstra, col. 3, line 49 through col. 4, line 7*); and a control section for controlling a vibration of the vibration system member by applying to the first voice coil a signal obtained by adding a direct current component to an acoustic signal based on the position of the vibration system member (*Dijkstra, col. 3, lines 49-60: electric power is added to the coil to set it to its zero(balanced) position*) detected by the position detecting section so that a center of an amplitude of the magnetic member is at a balanced position of a magnetic field formed in the gap (*Dijkstra, col. 3, lines 49-60*) as taught in Dijkstra. It would have been obvious to modify the speaker device of Tagami with the position detecting and control section of Dijkstra for the purpose of correcting the position of the diaphragm.

1. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tagami, US Patent 6,269,168 B1 as applied to claim 18 above, in view of Dijkstra et al, US Patent 4,607,382, and further in view of Proni, US Patent 6,501,844 B2. (The Dijkstra reference is cited in IDS filed in 9/27/2006)

Re Claim 31, the combined teachings of Tagami and Dijkstra disclose the speaker device according to claim 30, but fail to disclose where the position detection section is a gauge (*Proni, col. 5, line 48 through col. 6, line 5*) as taught in Proni. Thus, it would have been obvious to modify the speaker device of Tagami and Dijkstra with the Proni gauge that controls the voice coil by sensing its position and balancing it after

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sensing it for the purpose of being able to center the voice coil within the magnetic gap.

The combined Tagami, Dijkstra and Proni fail to explicitly disclose the gauge being a laser displacement gauge. However, official notice is taken that both the concepts and advantages of providing a laser displacement gauge are well known in the art. Thus it would have been obvious to use a laser displacement gauge since they are commonly used to measure the distance an object moves.

2. Claims 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tagami, US Patent 6,269,168 B1.

Re Claims 33 & 34, Tagami discloses the speaker device according to claim 18; but fails to disclose the speaker device disposed in a car body or a video device. Official notice is taken that both the concepts and advantages of providing the speaker device in a car or a housing device are well known in the art. Thus it would have been obvious to use the speaker device in a car or a housing device for the purpose of improving speaker operations in various devices such as automobiles and home theater systems.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GEORGE C. MONIKANG whose telephone number is (571)270-1190. The examiner can normally be reached on M-F, alt Fri. Off 7:30am-5:00pm (est).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George C Monikang/  
Examiner, Art Unit 2614

1/24/2009

**/Vivian Chin/  
Supervisory Patent Examiner, Art Unit 2614**

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